

This listing of claims will replace all prior versions, and listings, of claims in this application.

Claims 1-21 (canceled)

Claim 22. (new) An antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to an SDI-1 fusion protein, which protein comprises (i) an SDI-1 protein or fragment thereof and (ii) a hinge region of at least the amino acids depicted in SEQ ID NO:9, which fusion protein is capable of inhibiting DNA synthesis in a recipient cell.

Claim 23. (new) An antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to an SDI-1 fusion protein having the coding sequence of the cDNA insert of the plasmid contained in ATCC Deposit 69597.

Claim 24. (new) An antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to an SDI-1 fusion protein comprising the amino acid sequence depicted in SEQ ID NO:11.

Claim 25. (new) An antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to the SDI-1 protein encoded by SEQ ID NO: 2.

Claim 26. (new) An antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to an SDI-1 protein having the coding sequence of the cDNA insert of the plasmid contained in ATCC Deposit 69081.

Claim 27. (new) A monoclonal antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to a protein or a fusion protein comprising at least the amino acid sequence of SEQ ID NO: 2

Claim 28. (new) A monoclonal antibody to a senescent cell-derived inhibitor, SDI-1, which antibody specifically binds to:

- a) a protein comprising the coding sequence of the cDNA insert of the plasmid contained in ATCC Deposit 69081;
- b) a fusion protein comprising at least the coding sequence of the cDNA insert of the plasmid contained in ATCC Deposit 69081;
- c) a fusion protein consisting of the amino acid sequence depicted in SEQ ID No. 11; or
- d) a fusion protein consisting of the coding sequence of the cDNA insert of the plasmid contained in ATCC Deposit 69597.

Claim 29. (new) An antibody to a senescent cell-derived inhibitor, SDI-1, which specifically binds to an SDI-1 fragment comprising in the fragment at least amino acids 1 to 71, 1 to 82, 1 to 123, 16 to 52, 42 to 47, 42 to 58, 42 to 71, 48 to 65, 49 to 53, 52 to 71, 53 to 58, 58 to 61, or 66 to 71 as depicted in SEQ ID NO: 2.

Claim 30. (new) The SDI-1 antibody of Claim 29, wherein the SDI-1 fragment comprises in the fragment amino acids 42 to 47, 42 to 58, 52 to 71, or 53 to 58.

Claim 31. (new) A continuous cell line prepared by fusing a tumor cell with an antibody-producing cell derived from a mouse immunized with a protein which is a senescent cell-derived inhibitor, SDI-1, or a fragment thereof.

Claim 32. (new) A continuous cell line which produces a monoclonal antibody specific for a protein which is a senescent cell derived inhibitor, SDI-1, or a fragment thereof, wherein the continuous cell line is prepared by fusing a myeloma or plasmacytoma cell with a splenic leukocyte or splenocyte derived from a mouse immunized with an SDI-1 protein or fragment thereof.

Claim 33. (new) The cell line of Claim 32, wherein the cell line is prepared by fusing the myeloma cell with the splenic leukocyte.

Claim 34. (new) The cell line of Claim 32, wherein the cell line is prepared by fusing the myeloma cell with the splenocyte.

Claim 35. (new) The cell line of Claim 32, wherein the cell line is prepared by fusing the plasmacytoma cell with the splenic leukocyte.

Claim 36. (new) The continuous cell line of Claim 32, wherein the hybridoma cell line is prepared by fusing the plasmacytoma cell with the splenocyte.

Claim 37. (new) A pharmaceutical composition which comprises the SDI-1 antibody of Claim 22, 23, 24, 25, 26, 29 or 30.

Claim 38. (new) A pharmaceutical composition which comprises the SDI-1 monoclonal antibody of Claim 27 or 28.

Claim 39. (new) A process for detecting the presence of a protein which is a senescent cell-derived inhibitor, SDI-1, or a fragment thereof, which process comprises the steps of:

(a) contacting a sample with a soluble antibody to the SDI-1 protein or fragment thereof; and

(b) detecting the presence of the SDI-1 protein, or fragment thereof, bound to the antibody.